

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A liquid crystal display apparatus comprising:

an illumination section having a light source and an optical guide member, and a reflection type LCD having a display region including a plurality of pixels for performing a display function, the optical guide member having first and second principal faces opposite to each other and first and second end faces opposite to each other,

wherein the reflection type LCD is disposed on or above the first principal face of the optical guide member,

wherein light from the light source enters the optical guide member at the first end face, exits the optical guide member at the first principal face so as to be incident on the reflection type LCD and reflected therefrom, reenters the optical guide member at the first principal face, and exits the optical guide member at the second principal face toward a viewer,

wherein the reflection type LCD includes a plurality of color composite pixels and a color filter layer having a regular array of a plurality of color filters, each of the plurality of color composite pixels including a plurality

of color pixels, each of the plurality of color pixels being defined by a corresponding one of the plurality of color filters,

the plurality of color pixels having a pitch $P1$ along a side of each color pixel ~~along a first direction parallel to the light source~~, and the plurality of color composite pixels having a pitch $P2$ along a side of each color composite pixel ~~along a second direction perpendicular to the light source~~, the pitch $P1$ being smaller than the pitch $P2$, and

each of the color pixels being arranged with respect to the light source such that the side having the pitch $P1$ is perpendicular to the light entering the first end face of the optical guide member,

each of the color composite pixels being arranged with respect to the light source such that the side having the pitch $P2$ is parallel to the light entering the first end face of the optical guide member, and

the light source being disposed in the vicinity of a side of the display region extending substantially in parallel to the ~~first direction~~ side of each color pixel having pitch $P1$.

2. (Original) A liquid crystal display apparatus according to claim 1,

wherein the light source is disposed in an upper or lower direction of the display region so that the viewer is located in a direction of specular reflection to which light emitted from the illumination section is subjected at the reflection type LCD.

3. (Original) A liquid crystal display apparatus according to claim 1, wherein the light source is disposed near an end of the reflection type LCD where terminals for coupling the reflection type LCD to external display circuitry are provided.

4. (Original) A liquid crystal display apparatus according to claim 1, wherein the light source is disposed in the vicinity of the first end face of the optical guide member, and wherein a width t_1 of the first end face and a width t_2 of the second end face of the optical guide member substantially satisfy $t_1 > t_2$.

5. (Original) A liquid crystal display apparatus according to claim 1, wherein the optical guide member includes a periodic structure formed on the second

principle face, the periodic structure including propagation portions and reflection portions alternating along a third direction.

6. (Original) A liquid crystal display apparatus according to claim 5, wherein the third direction coincides with neither the first direction nor the second direction.

7. (Original) A liquid crystal display apparatus according to claim 1, wherein the optical guide member includes an antireflection element provided on the first principle face.

8. (Original) A liquid crystal display apparatus according to claim 1, wherein a light shielding member is disposed corresponding to a connection or transition portion between the optical guide member and the light source.

9. (Original) An electronic device incorporating the liquid crystal display apparatus according to claim 1.

10. (Original) A liquid crystal display apparatus according to claim 2,

wherein the light source is disposed in an upper direction of the display region of the reflection type LCD.

11. (Original) A liquid crystal display apparatus according to claim 10,

wherein the optical guide member includes a periodic structure formed on the second principal face, the periodic structure including propagation portions and reflection portions alternating along a third direction, and

wherein the incident light from the light source is subjected to total reflection at the reflection portions.

12. (Currently Amended) A liquid crystal display apparatus comprising:

an illumination section having a light source and an optical guide member, and a reflection type LCD having a display region including a plurality of pixels for performing a display function, the optical guide member having first and second principal faces opposite to each other and first and second end faces opposite to each other,

wherein the reflection type LCD is disposed on or above the first principal face of the optical guide member, and

wherein light from the light source enters the optical guide member at the first end face, exits the optical guide member at the first principal face so as to be incident on the reflection type LCD and reflected therefrom, reenters the optical guide member at the first principal face, and exits the optical guide member at the second principal face toward a viewer,

wherein the optical guide member includes a periodic structure formed on the second principal face, the periodic structure including propagation portions and reflection portions alternating along a third direction at an angle from said light source, and

wherein the third direction coincides with neither a first direction parallel to the light source nor a second direction perpendicular to the light source, and is coplanar with said second principal face of the optical guide member ~~first and second directions~~.

13. (Original) A liquid crystal display apparatus according to claim 1, wherein the ratio P1:P2 is between 1:2.0 and 1:2.5.

14. (Original) A liquid crystal display apparatus according to claim 6, wherein the third direction of the periodic structure on the optical guide member is at an angle of about 10° to about 25° from the first direction.

15. (Original) A liquid crystal display apparatus according to claim 6, wherein the third direction of the periodic structure on the optical guide member is at an angle of about 55° to about 80° from the first direction.

16. (New) A liquid crystal display apparatus, comprising:
a LCD having a reflection electrode and a region including a plurality of pixels for performing a display function; and

an optical guide member having first and second principle faces opposite to each other, and a first end face;

said LCD includes a plurality of color pixels and a color filter layer having a regular stripe array of a plurality of color filters,

the plurality of color pixels having a pitch $P1$ parallel to the first end face, and the plurality of color

pixels having a pitch P2 perpendicular to the first end face, the pitch P1 being smaller than the pitch P2,

wherein light from a light source enters said optical guide member at the first end face and exits from said optical guide member at the first principal face to be incident on said LCD, and

wherein light entering at the first end face travels along the longer pitch P2 of the color pixels.

17. (New) The liquid crystal display device according to claim 16, wherein said guide member has a periodic structure at the second principal face.

18. (New) The liquid crystal apparatus according to claim 16, wherein a light reflected by the reflection electrode enters said optical guide member at the first principal face.

19. (New) A liquid crystal display apparatus, comprising:
a LCD having a reflection electrode and a region including a plurality of pixels for performing a display function; and

an optical guide member having first and second principle faces opposite to each other, and a first end face;

said LCD includes a plurality of color composite pixels and a color filter layer having a regular delta array of a plurality of color filters, each of the color composite pixels having a plurality of color pixels,

the plurality of color pixels having a pitch P parallel to the first end face, and the plurality of color composite pixels having a second pitch of $2P$ perpendicular to the first end face,

wherein light from a light source enters said optical guide member at the first end face and exits from said optical guide member at the first principal face to be incident on said LCD, and

wherein light entering at the first end face travels along the longer second pitch of the color pixels.

20. (New) The liquid crystal display device according to claim 19, wherein said guide member has a periodic structure at the second principal face.

21. (New) The liquid crystal apparatus according to claim 19, wherein a light reflected by the reflection electrode

enters said optical guide member at the first principal face.